

## ABSTRACT

The present invention is directed to an efficient method and apparatus for channel determination and interference vector construction in accordance with spread spectrum systems. Channel determination is performed using a first series of fast Walsh transform steps. The results of the first set of fast Walsh transform steps corresponding to valid communication system channels are compared to a threshold value. Results derived from the first set of fast Walsh transform steps are then passed through a second set of fast Walsh transform steps with the number of steps performed for a set of results determined by the symbol length associated with the channels from which the amplitude information was derived. The interference vectors thus obtained for each valid symbol length may then be combined to form a composite interference vector. The fast Walsh transform steps and other steps may be performed using shared hardware components or software modules.